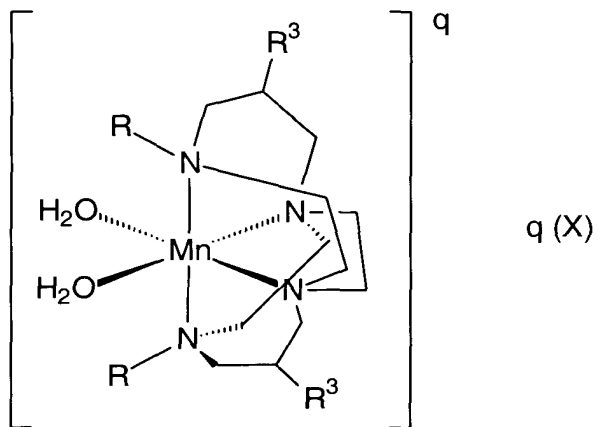
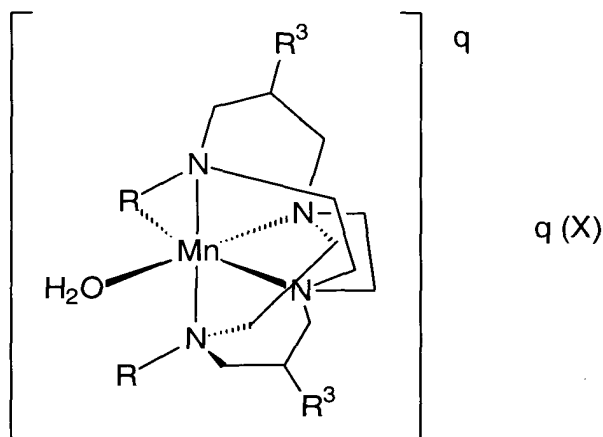


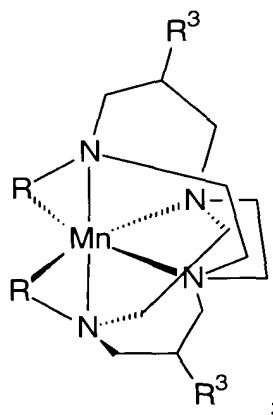
1. A method for providing an enhanced magnetic resonance image contrast of human or animal vascular tissue, nephric tissue or a combination thereof; said method comprising the steps of:
  - 1.) administering to a human an effective amount, of a composition comprising:
    - a.) from about 0.01% to about 99.99% by weight, of a 1,4,8,11-tetraaza-bicyclo[6.6.2]hexadecane manganese (II) complex magnetic resonance imaging agent selected from the group:
      - i)



ii)



iii)



iv) and mixtures thereof;

wherein each R is independently selected from the group consisting of:

- i)  $C_1$ - $C_{18}$  hydrocarbyl;
- ii)  $-(CH_2)_nCO_2^-$ ;
- iii)  $CH_3(CH_2)_nCO^-$ ;
- iv)  $-(CH_2)_nR^1$ ;
- v)  $-(CH_2)_nOPO_3^-$ ;
- vi)  $-[(CH_2)_nOPO_3R^2(phenyl)_2]^-$ ;

$R^1$  is hydroxyl, 2-hydroxyphenyl, 2-pyridyl, 2-furfuryl, and mixtures thereof;  $R^2$  is  $C_1$ - $C_{12}$  linear, branched, or cyclic alkylene;

$R^3$  is selected from the group consisting of:

- i) hydrogen;
- ii)  $C_1$ - $C_{18}$  hydrocarbyl;
- iii)  $-OH$ ;
- iv)  $-(CH_2)_mCO_2^-$ ;
- v)  $-O(CH_2)_mCO_2^-$ ;
- vi) and mixtures thereof;

the indices m and n have the value from 0 to about 10; X is a pharmaceutically compatible anion in sufficient amount q to provide electronic neutrality; and

b.) the balance carriers and other adjunct ingredients; and

2.) imaging said human or animal's vascular tissue, nephric tissue or a combination thereof.

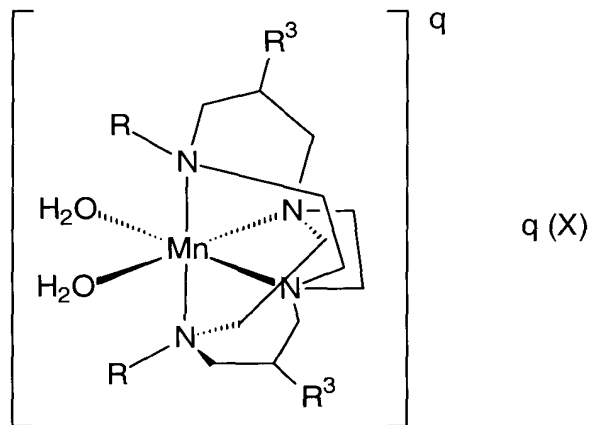
2. A method according to Claim 1 wherein the serum blood levels of said agent is from about 0.001 moles to about 2 moles per liter.

3. A method for providing an enhanced magnetic resonance image contrast of human or animal vascular tissue, nephric tissue or a combination thereof; said method comprising the steps of:

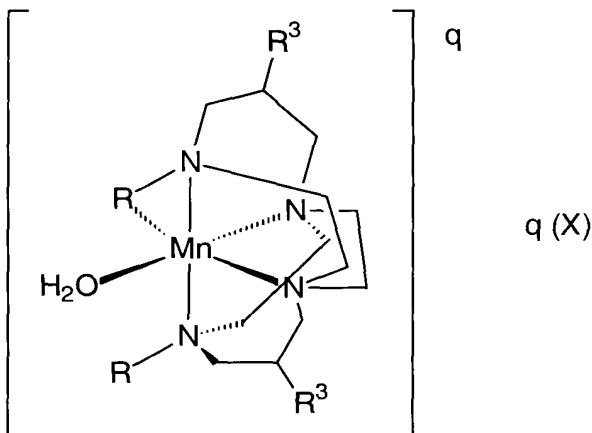
1.) administering to a human or animal an effective amount of a composition comprising:

a.) from about 0.01% to about 99.99% by weight, of a 1,4,8,11-tetraaza-bicyclo[6.6.2] hexadecane manganese (II) complex magnetic resonance imaging agent selected from the group:

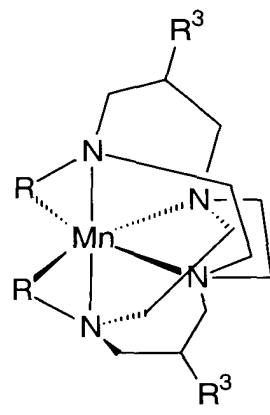
i)



ii)



iii)



iv) and mixtures thereof;

wherein each R is independently selected from the group consisting of:

- i)  $C_1-C_{18}$  hydrocarbyl;
- ii)  $-(CH_2)_nCO_2^-$ ;
- iii)  $CH_3(CH_2)_nCO^-$ ;
- iv)  $-(CH_2)_nR^1$ ;
- v)  $-(CH_2)_nOPO_3^-$ ;
- vi)  $-[(CH_2)_nOPO_3R^2(phenyl)_2]^-$ ;

$R^1$  is hydroxyl, 2-hydroxyphenyl, 2-pyridyl, 2-furfuryl, and mixtures thereof;  $R^2$  is  $C_1-C_{12}$  linear, branched, or cyclic alkylene;

$R^3$  is selected from the group consisting of:

- i) hydrogen;
- ii)  $C_1-C_{18}$  hydrocarbyl;
- iii)  $-OH$ ;
- iv)  $-(CH_2)_mCO_2^-$ ;
- v)  $-O(CH_2)_mCO_2^-$ ;
- vi) and mixtures thereof;

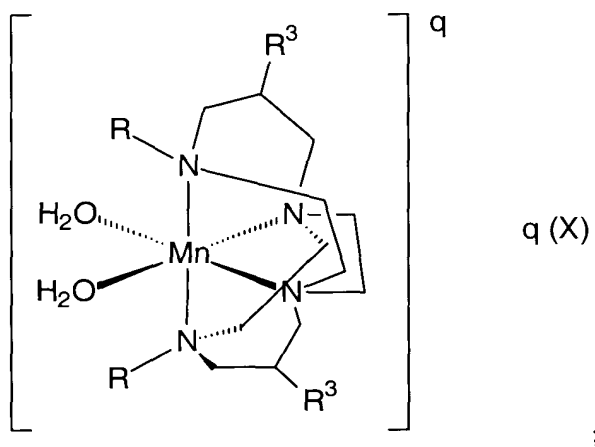
the indices m and n have the value from 0 to about 10; X is an pharmaceutically compatible anion in sufficient amount q to provide electronic neutrality; and

b.) the balance carriers and other adjunct ingredients; and

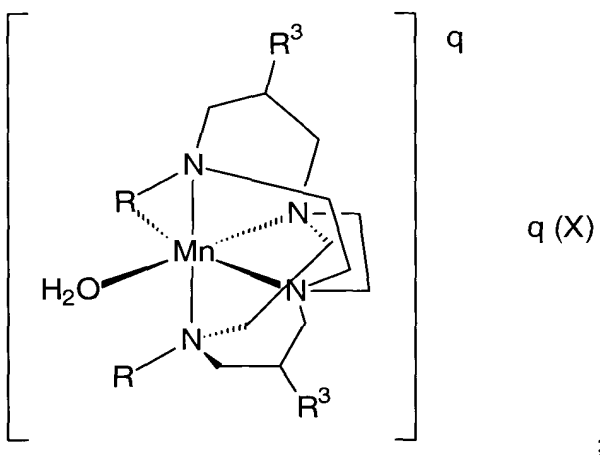
2.) sustaining said effective amount of MRI agent for a period of time exceeding one hour; and

- 3.) imaging said human or animal's vascular tissue, nephric tissue or a combination thereof.
4. A method according to Claim 3 wherein at least one R unit comprises  $-(CH_2)_nCO_2^-$ , and n is from 1 to 4.
5. A method according to Claim 4 wherein n is 1.
6. A method according to Claim 3 wherein each R unit comprises  $-(CH_2)_nCO_2^-$ , and n is from 1 to 4.
7. A method according to Claim 1 wherein the tissue that is imaged comprises vascular tissue.
8. A method according to Claim 1 wherein the tissue that is imaged comprises nephric tissue.
9. A method according to Claim 2 wherein the tissue that is imaged comprises vascular tissue.
10. A method according to Claim 2 wherein the tissue that is imaged comprises nephric tissue.
11. A method according to Claim 3 wherein the tissue that is imaged comprises vascular tissue.
12. A method according to Claim 3 wherein the tissue that is imaged comprises nephric tissue.
13. A method according to Claim 4 wherein the tissue that is imaged comprises vascular tissue.
14. A method according to Claim 4 wherein the tissue that is imaged comprises nephric tissue.

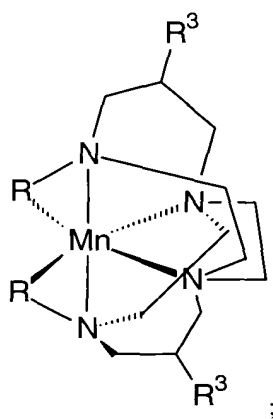
15. A method according to Claim 5 wherein the tissue that is imaged comprises vascular tissue.
16. A method according to Claim 5 wherein the tissue that is imaged comprises nephric tissue.
17. A method according to Claim 6 wherein the tissue that is imaged comprises vascular tissue.
18. A method according to Claim 6 wherein the tissue that is imaged comprises nephric tissue.
19. A method according to Claim 1 wherein the tissue that is imaged consists essentially of vascular tissue.
20. A method according to Claim 1 wherein the tissue that is imaged consists essentially nephric tissue.
21. A method according to Claim 3 wherein the tissue that is imaged consists essentially of vascular tissue.
22. A method according to Claim 4 wherein the tissue that is imaged consists essentially nephric tissue.
23. A solid pharmaceutical composition comprising:
  - a) from about 0.01% to about 99.99% by weight, of a 1,4,8,11-tetraaza-bicyclo[6.6.2] hexadecane manganese (II) complex magnetic resonance imaging agent selected from the group:
    - i)



ii)



iii)



iv) and mixtures thereof;

wherein at least one R unit comprises  $-(CH_2)CO_2-$ , and the remaining R is independently selected from the group consisting of:

- i)  $C_1-C_{18}$  hydrocarbyl;
- ii)  $-(CH_2)_nCO_2^-$ ;
- iii)  $CH_3(CH_2)_nCO^-$ ;
- iv)  $-(CH_2)_nR^1$ ;
- v)  $-(CH_2)_nOPO_3^-$ ;
- vi)  $-[(CH_2)_nOPO_3R^2(phenyl)_2]^-$ ;

$R^1$  is hydroxyl, 2-hydroxyphenyl, 2-pyridyl, 2-furfuryl, and mixtures thereof;  $R^2$

is  $C_1-C_{12}$  linear, branched, or cyclic alkylene;

$R^3$  is selected from the group consisting of:

- i) hydrogen;
- ii)  $C_1-C_{18}$  hydrocarbyl;
- iii)  $-OH$ ;
- iv)  $-(CH_2)_mCO_2^-$ ;
- v)  $-O(CH_2)_mCO_2^-$ ;
- vi) and mixtures thereof;

the indices m and n have the value from 0 to about 10; X is an pharmaceutically compatible anion in sufficient amount q to provide electronic neutrality; and

- b) the balance comprising a pharmaceutically acceptable, solid inert filler.